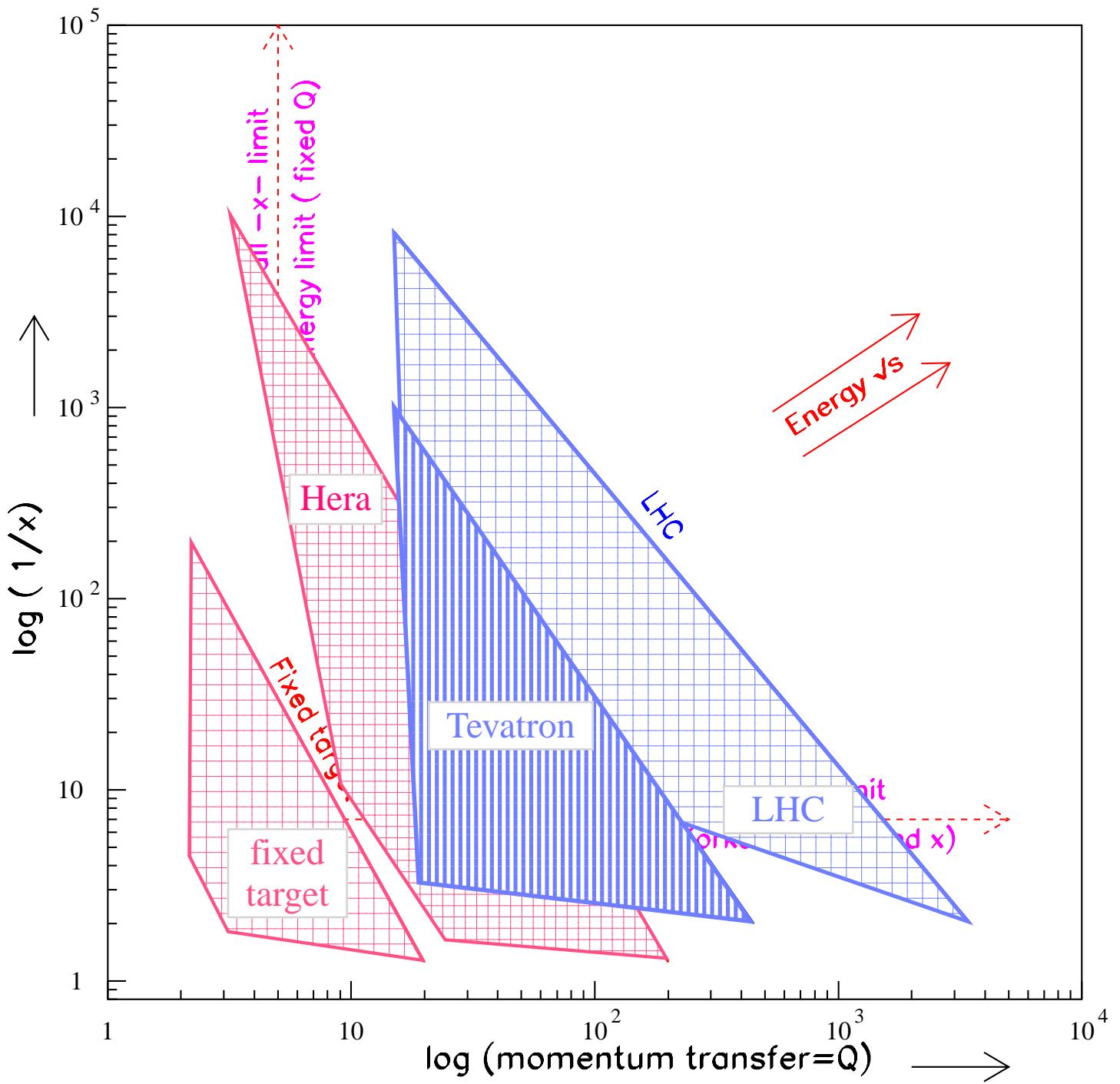


# Kinematic Map of High Energy Proton Scattering



**Definition of momentum transfer ( $Q$ ) and minimum  $x$  ( $x_{\min}$ ):**

**Deep Inelastic :**  $Q = 4$  momentum transfer from lepton to proton

**Hadron-Hadron:**  $Q = \text{Transverse energy of Jet } (E_t)$

$$x_{\min} = (E_t / \sqrt{s}) (e^{-y_1} + e^{-y_2}) \text{ for } E_t = 15 \text{ GeV and maximum rapidity } y_1 = y_2 = 3$$